

REMARKS/ARGUMENTS

Applicants appreciate the Examiner's thorough search with respect to the present patent application. Applicants further note with appreciation that the finality of the previous Office action is withdrawn pursuant to 37 C.F.R. 1.114, and that applicants' submission filed on February 13, 2004 has been entered.

Claims 1 and 2 have been canceled without prejudice and have been replaced by claims 20 and 21 respectively, and claim 19 has been amended to more clearly define the invention. Also, dependent claims 3-18 have been amended to correct some unnecessarily complex phraseology, and to conform to the wording of claims 20 and 21.

New claim 22 has been added to provide applicants with additional protection to which the appear to be entitled. No new matter has been added. Applicants believe the amendments to these claims make explicit that which was already implicit, and accordingly, are not made for statutory purposes for patentability.

Claims 1-19 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Rudit (U.S. Patent No. 5,717,456) and Katz (U.S. Patent No. 5,956,081) in view of Hunt (EP 0 366 235 A1). Applicants respectfully submit that this rejection is not applicable to the claims in their present form.

The present invention relates to a process of synchronizing display of a sequence of images obtained by multiple cameras positioned at various locations. The inventive concept is embodied in an application for monitoring a moving web, for example in paper-making. The invention allows an operator to select an observed object of interest at some location in the web and to follow that object as the web moves along by collecting a set of images from some or all of the cameras as the object under observation passes within the fields of view of the respective cameras. This is achieved by the definition of synchronization parameters including the web velocity and the distance between the cameras along the process to produce timing signals for selecting images from the required cameras.

This concept is not taught or suggested in any of the references, either alone or together. In Rudit, cameras are set up to view different process locations and produce a series of images

which are stored digitally in segments of predetermined duration. These in turn, are comprised of a succession of so-called "clips" of shorter duration. A separate set of deviation detectors (38) monitor the process, and when one of these detects a process deviation, the process is halted, and the stored image data from one or more cameras observing the location of the deviation are displayed on a monitor for visual analysis. The image clips are selected for display according to the time of the deviation, and the location as indicated by which detector responded to the deviation.

Rudt's main concern is reduction of data storage capacity and bandwidth for data transmission. To this end, image data segments which do not contain images taken during detection of a deviation event by the deviation detectors are discarded on a first-in first-out basis. *It is important to note that there is no synchronization between the cameras or the image segments generated by the respective cameras based on parameters related to process velocity or camera spacing.*

Katz discloses a surveillance system which uses multiple cameras to observe limited areas in a larger space. This permits selection of cameras to monitor the activities of an individual as he or she moves though the space under surveillance either by programed selection or under control of an operator. Again, there is no teaching or suggestion in the reference to track the movement of the individual under observation on the basis of speed of movement or the spacing of the cameras. Also, Katz does not teach selection of images from image streams provided by the individual cameras.

Nor does Hunt overcome the deficiencies in Rudt and Katz. This just uses a tachometer to generate timing signals to sample individual pixels in a single image several times as it moves through a charge coupled device which creates the image. Again, there is no suggestion of synchronizing multiple images from different cameras to follow an object along a web process, or tracking movement of an object based on the spacing of multiple cameras.

Applicants respectfully submit that the Examiner has not demonstrated a motivation in the prior art or otherwise for one skilled in the art to combine these references, and in fact, there is no such motivation. Since Rudt already suggests the possibility of displaying images from more than one camera, there is nothing in Katz which needs to be added to Rudt. As to Hunt,

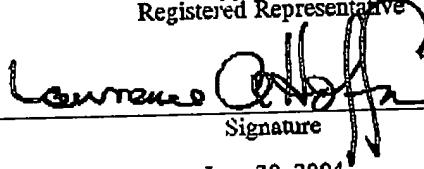
Rudt already mentions use of process velocity but not for image synchronization. On the other hand, Hunt does not use process velocity for image synchronization either.

Moreover, even if the references are combined, they still don't result in a teaching of the claimed method or an apparatus which could practice the method. Each of independent claims 19-22 requires image synchronization from multiple cameras based on velocity of the moving object *and* camera spacing. As explained above, this concept is not present in any of the references, whether considered alone or together.

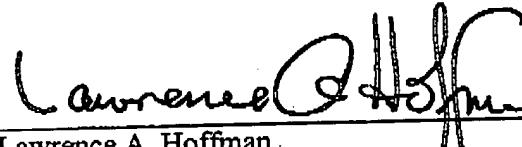
Claims 3-18 depend directly or indirectly from independent claim 20 or claim 21, and, therefore, are patentable for the same reasons as well as because of the combination of features set forth in those claims with the claim(s) from which they depend.

This application is believed to be in condition for allowance, which action is earnestly solicited.

I hereby certify that this correspondence is being facsimile transmitted to the Patent and Trademark Office, on June 30, 2004:

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Respectfully submitted,

  
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